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ABSTRACT

Vocational agricultural education is unique and serves a valuable role in secondary schools--a role that general education cannot fill. The program does so by providing a variety of experience-based opportunities that address all three domains of learning. Vocational agriculture is a broad-based cluster program focusing on the industry of agriculture. It serves students with a wide range of backgrounds, interests, and capabilities. The program incorporates many academic and science skills with the goal of increasing individual productivity. Extended-day and extended-year educational activities complement a program sequenced to build on previous instruction. This community-based program is further complemented by available adult and postsecondary instruction in agriculture. Vocational agriculture strives to provide specific knowledge and skills in the context of the industry of agriculture with the goal of providing a bridge between the classroom and an agricultural career. Half of the paper is in the form of a discussion of nine unique characteristics of vocational agriculture. Each characteristic is described and a justification for its retention is provided. (Author/YLB)

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Vocational Agriculture:

A Unique Program That Should Be Retained

A Position Paper

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FOREWORD

Vocational agriculture has been a part of the voluntary offerings of the public schools for many years. The growth of vocational agriculture in the public schools was given its initial push by the Smith-Hughes Act of 1917 and the subsequent federal acts.

As we have moved into an information age which places greater emphasis upon skills and technical knowledge, we find renewed emphasis in vocational agriculture programs.

This position paper provides a brief review of the theory underlying vocational agriculture and rationale for why it should be retained. It is hoped that educational policymakers at all levels will give additional consideration to vocational agriculture programs upon their perusal of this document.

Appreciation for the development of this position paper is extended to all members of NASAE and, more specifically, to the 1986 and 1987 Executive Committee of NASAE.

Dewey W. Stewart
President, NASAE

Vocational Agriculture:

A Unique Program That Should Be Retained

In a period of declining high school enrollment, increasing graduation requirements, and declining educational resources, agricultural educators are called upon to justify their areas of endeavor. The profession has long maintained:

1. that vocational agriculture programs are different from other educational programs, and

2. that the unique nature of vocational agriculture constitutes an effective educational delivery system for those students with an interest in the broad area of agriculture.

This position paper will clarify why vocational agriculture is different (or unique) and why such a program is a necessary part of American education.

The roots of vocational agriculture trace back to turn-of-the-century educational philosophers who often sharply disagreed on educational issues. One issue addressed in late 1914 and early 1915 was vocational/industrial education and the role it should play in the American educational system. The primary antagonists were David Snedden, former professor of educational administration at Columbia University and then Commissioner of Education for Massachusetts; and John Dewey, the leading educational philosopher of the day.

Both men were critical of the traditional, elitist approach to education and both supported vocational education; however, Dewey believed vocational education should be closely tied to and play a role in general education. Vocational education reflected his basic belief that "there is an intimate and necessary relation between the processes of actual experience and education." Dewey's focus was on the individual, expanding opportunities, and the use of education to reform the industrial complex.

Snedden, on the other hand, wanted an efficient system of training workers to support industry. He thought vocational education should be controlled by industry and kept away from general educators. He emphasized that vocational training should focus only on those skills and attitudes necessary for people to be successful in the specific occupations for which they were being trained. In 1917, the Smith-Hughes legislation incorporated David Snedden's philosophy into a law which initiated the federal presence in vocational education.

However, this was not the end of the debate. Agricultural educators never fully accepted strict separation between general and vocational education. While advocating close ties to the agricultural industry as well as practical, industry-related education, agricultural teachers also staunchly defended the position that their programs contributed to the general education of the student. Agricultural educators continued the struggle to define vocational agriculture over the years. In 1976, through the Agricultural Education Division of the American Vocational Association (AVA), they stated that:

> "Vocational Agricultural Education, rather than being a discipline, is a unique and identifiable program which combines the skills and technical content of various disciplines with the practical requirements of the world of work to prepare a person to succeed technically and socially."

After five years of examining vocational agriculture programs, Rosenfeld in 1985 described vocational agriculture as:

> "A program originally intended to hasten the dissemination of scientific agricultural innovations . . . The strategy behind vocational agriculture is based on a production model in which workers make independent decisions and are encouraged to take initiative."

Rosenfeld also identified the program characteristics of vocational agriculture cited in many national secondary education studies as beneficial traits. Those characteristics included: leadership and entrepreneurship training, longer periods of time devoted to education, utilization of the problem-solving approach to learning, higher quality teachers, cooperation with the private sector, and a program breadth that sets it apart from narrow-focused trade and industrial vocational programs. Rosenfeld concluded:

"Vocational agriculture was never intended to meet occupational demand; it was meant to improve productivity, not to increase the number of farmers. It also prepared youths to adapt to demand and to be generally productive."

Rosenfeld added that to accomplish these objectives, close associations among vocational agriculture programs, local communities, and agribusinesses were present. Also, instructors conducted home or farm visits with parents and students to maintain personal contact.

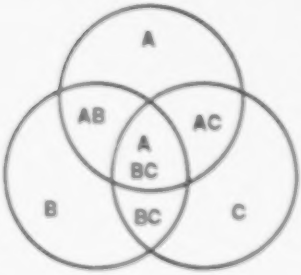
One of the key characteristics of vocational agriculture is its emphasis on serving the interests of the diverse industry of agriculture through education of interested students. This focus on agriculture has caused vocational agriculture to become an integral part of the agricultural industry and a vital part of the social fabric in rural communities across America. That focus is a primary justification for the program.

Agriculture is an applied science, and the scientific model was adopted very early in the history of agricultural education. Land-grant colleges and the agricultural experiment stations that accompanied those institutions generated agricultural research that assured that vocational agriculture programs would follow a science-based curriculum. Indeed, science and math concepts and skills are an inherent part of the instruction offered in vocational agriculture programs across this nation. Plant and animal life cycles, the nutritional composition of feedstuffs, and the genetic characteristics of plants and animals are an example of the science concepts included in the curriculum. The balancing of rations, financial analysis, record keeping, and calculation of fertilizer costs are examples of course content that involve the development of math skills. Other academic skills in the areas of communications, social studies, and computer science are developed by the student through participation in public speaking, parliamentary procedure, community improvement projects, and computerized record keeping, as well as through class instruction related to such activities.

An operational description of the program design of vocational agricultural education was described in a Missouri conference study guide (1985):

"Vocational Agriculture is a year-round educational program which prepares secondary, postsecondary and adult students for a variety of careers and for advanced college or technical

training. Job opportunities for students range from the traditional entry-level positions in farming to positions in agribusiness, horticulture, natural resources, and forestry. Vocational agriculture is delivered by the following programs: four-year 'cluster' programs at comprehensive high schools and area vocational schools, two-year 'specific' programs at comprehensive high schools and area vocational schools, two-year community/junior college 'specific' programs, and 'supplemental' adult education in high schools. At each level, training programs consist of three interrelated components:



A. Classroom/laboratory instruction using the 'problem-solving' technique.
B. Supervised occupational experience in which each student gains 'hands-on' experience outside the classroom.
C. Leadership development through the FFA in high school, PAS at the post-secondary institutions, and Young Farmers for adults currently employed in agriculture."

Vocational agriculture further emphasizes: a) realistic learning experiences that have obvious applicability; b) active, hands-on participation in the learning process; c) continous reinforcement of skills through qualitatively different experiences such as judging contests, classroom discussion, and opportunities for entrepreneurship; d) attention to the psychomotor and affective domains of learning to complement the cognitive; and e) a problem-oriented approach to learning that highlights the reasons for learning the information instead of just learning the information for its own sake.

Vocational agriculture has many unique characteristics. These characteristics follow with a summary and justification for retention of each.

Unique Characteristics of Vocational Agriculture

Characteristic #1 Vocational agriculture focuses on the broad industry of agriculture and is designed to serve interested students. It appeals to students with diverse backgrounds, interests, and capabilities.

Justification for Retention

Vocational agriculture is a program focused on the industry of agriculture. Because the agricultural industry is broad and diverse, programs in vocational agriculture also show breadth and diversity and attract a wide range of students with varying capabilities and career goals. The hands-on activities in the curriculum are not just an alternate form of general education, but are designed and intended to provide students with skills they will use in an agriculture-related occupation. Many of the instructional methods used, such as supervised occupational experience, intensive training in expensive and realistic laboratories, and participation in technical skills contests, are difficult to justify apart from providing training for the agricultural industry. The retention of a focus on the agricultural industry while serving students with a wide range of interests and capabilities is fundamental to the justification of vocational agriculture programs in American education.

Characteristic #2 Academic and science skills are an inherent part of the vocational agriculture curriculum.

Justification for Retention

The agricultural industry is at the forefront of the development and utilization of new technologies. Much of today's genetic and biological engineering is taking place in the field of agriculture. The new professionals and technicians for such work will require the skills and knowledge of applied agricultural science. Vocational agriculture programs which are based on a science model will need to continue giving emphasis to biological and chemical technologies. The retention of this characteristic is mandatory if the interests of the agricultural industry are to be served.

Characteristic #3 The purpose of vocational agriculture is to improve individual productivity.

Justification for Retention

Naisbett (1982) strongly suggested that an individual worker's productivity determines the success of a business entity. Only with a motivated, productive work force can the country compete internationally. Rosenfeld (1985) stated that "vocational agriculture comes closer than any other educational program to meeting America's need for a revised entrepreneurial spirit and increased productivity." At this time in the country's history, when individual productivity and the search for individual excellence are so valued, an educational program that is based on enhancing individual productivity should not only be retained, but set apart as a model for other programs.

Characteristic #4 Vocational agriculture curricula are composed of three interrelated components, each of which reflects the three educational domains:

a) Classroom and laboratory experiences are based in the cognitive domain but include shop, greenhouse, and land lab activities which are manipulative and sometimes affective in nature.

b) Leadership development activities (FFA) are based in the affective domain through the development of attitudes related to leadership, citizenship, and cooperation. But they include content of a cognitive nature, such as parliamentary procedure, as well as manipulative skills in contests such as agricultural mechanics, and programs such as Building Our American Communities.

c) Supervised occupational experience programs develop entrepreneurial and employment-related skills with opportunity for emphasis of the psychomotor, cognitive, or affective domain.

Justification for Retention

Certain "Recommendations for Excellence" were developed by 200 Missouri business and industry representatives in 1986. These emphasized the need to retain present vocational agriculture program strengths. The identified components included problem-solving methods of teaching, personal skill development, leadership training, and student motivation. Knight (1985) stated that "teaching through the problem-solving approach, using supervised occupational experience programs, and working on personal development through FFA offer a framework upon which to base the search for excellence." No other educational program combines the three educational domains in such a purposeful way to maximize learning. This particular characteristic has long been recognized as a program strength worthy of retention.

Characteristic #5 Vocational agriculture at the secondary level is a broad-based cluster program in contrast to the skill-specific approach utilized by other programs.

Justification for Retention

The Unfinished Agenda (1984) identifies five areas that vocational education should address:

1. Personal skills and attitudes.
2. Communication and computational skills and technological literacy.
3. Employment skills.

4. Broad and specific occupational skills and knowledge.
5. Foundations for career planning and lifelong learning.

Other reports such as *High Schools and the Changing Workplace* (1984) emphasize broad-based learning that will transfer to many areas. *Recommendations for Excellence* (1986), an agricultural education study in Missouri, reinforced the preceding recommendations by stating that broad-based cluster programs at the secondary level were most appropriate to prepare students for today's changing agricultural economy. Such consensus in the literature for a broad-based cluster program is a clear signal that this characteristic should be retained in vocational agriculture.

Characteristic #6 Vocational agriculture programs are year-round in nature due to the incorporation of a planned program of summer educational activities and extended-day activities.

Justification for Retention

The only basis for maintaining a year-round program lies in the premise that it is educationally beneficial for students. The agricultural industry, in spite of its diversity, is heavily dependent on the summer months for production of commodities and services. A planned program of summer activities fits well with the agricultural industry and makes education a more meaningful process for students. The initial emphasis on year-round programs is found in the Smith-Hughes Act of 1917 which provided for student experiences through "directed or supervised practice." Though traditional in concept, the continued use of year-round programs was positively emphasized by the Missouri Recommendations for Excellence in 1986 and the National Vocational Agriculture Teachers Association in 1980. Many research studies support the concept that timing of tasks is highly correlated with learning. Vocational agriculture should be cited as an example in maximizing learning through the use of year-round teaching that involves planned summer educational activities and extended-day activities.

Characteristic #7 Vocational agriculture secondary programs involve four years of sequential instruction.

Justification for Retention

Stewart (1983) summarized that "the judgement of the effectiveness on value of a given year or phase of any instructional program in vocational education should be made in terms of the relationship of that experience to the cumulative outcomes of the program." Teaching

vocational agriculture over a four-year period emphasizes the educational principles of individual differences, practice, motivation, timeliness, and readiness. By building on past successes, students receive positive reinforcement of learning experiences through supervised occupational experience programs (SOEP) and leadership development in the FFA during the four-year program. Benefits from instruction in the first year are compounded by succeeding years of instruction. Condensing the educational program would decrease student motivation and retention of occupational competencies.

Characteristic #8 Vocational agriculture educators believe in lifelong learning by providing opportunities for students at the secondary, postsecondary, and adult levels.

Justification for Retention

"Vocational education does not begin and end at the high school level; it occurs before, during, and after," as stated in *The Unfinished Agenda* (1984). This view of education as a continual lifelong process is further supported by Naisbett and Aburdene (1985) when they said that "in an information society, education is no mere amenity; it is the prime tool for growing people and profits." A National Vocational Agriculture Teachers Association position statement approved in 1985 affirmed that "vocational agricultural education is available for youth at both the high school and post-high school levels and for adults throughout their working life." The current literature definitely supports the concept of lifelong learning as practiced in agricultural education.

Characteristic #9 Vocational agriculture is a community-based educational program (extended classroom) that depends on strong industry involvement.

Justification for Retention

Vocational agriculture exists in local schools because local boards of education deem it an appropriate means to serve student, industry, and community needs. The very existence of vocational agriculture and its growth since 1917 is a testimony to the preceding statement. The success of the FFA Foundation to secure industry support validates the willingness of industry to assist vocational agriculture. Naisbett and Aburdene (1985) outlined many instances of industry and education working together for mutual benefit.

Summary

Vocational agricultural education is unique. It serves a valuable role in secondary schools - a role that general education cannot fill. The program does so by providing a variety of experience-based opportunities that address all three domains of learning. Vocational agriculture is a broad-based cluster program focusing on the industry of agriculture. It serves students with a wide range of backgrounds, interests, and capabilities. The program incorporates many academic and science skills with the goal of increasing individual productivity. Extended-day and extended-year educational activities complement a program sequenced to build on previous instruction. This community-based program is further complemented by available adult and postsecondary instruction in agriculture. Vocational agriculture strives to provide specific knowledge and skills in the context of the industry of agriculture with the goal of providing a bridge between the classroom and an agricultural career.

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